

STORAGE

FAQ

Q I'm trying to connect multiple FireWire storage devices to my computer by daisy-chaining them, but some of them aren't recognised by Windows. How can I fix this?

A Even if a computer has only a single FireWire port, multiple FireWire peripherals can be attached by daisy-chaining them. Most FireWire devices have two six-pin FireWire ports, so the first device can be connected directly to the computer, a second device can be plugged into the first device, a third device can be plugged into the second and so on.

If a FireWire peripheral has a smaller four-pin port – or one four-pin and one six-pin port instead of two six-pin connectors – then it has to be the last device in your daisy chain. FireWire 400 and 800 devices can be daisy-chained using an adaptor cable, but they will then all operate at FireWire 400 speeds.

Alan Lu

PC systems and storage expert

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WESTERN DIGITAL Scorpio 250GB

★★★★★

£114 inc VAT

From www.lambda-tek.com/componentshop



Notebook hard disks tend to be far less spacious than those found in



desktop PCs, but Western Digital's 250GB Scorpio is the roomiest notebook disk yet, rivalling the capacity of some of its desktop counterparts.

The Scorpio is also one of the fastest 2½in hard disks we've seen. It spins at only 5,400rpm, but came close to the speeds of theoretically faster 7,200rpm disks. It wrote large files at 39.2MB/s and read them at 43.8MB/s. Small files were written at 10.5MB/s and read at 11.8MB/s.

This speed doesn't come at the expense of battery life. With the Scorpio installed, our notebook's battery lasted an extra 18 minutes. Other 2½in hard disks we've reviewed have decreased battery life.

The Scorpio is the best notebook hard disk we've seen. Just bear in mind that it uses a SATA instead of a PATA connection, so check which interface your notebook uses before buying.

Alan Lu

SUMMARY

- ✓ Large capacity
- ✓ Consistently fast performance
- ✓ Doesn't reduce battery life

2½in INTERNAL HARD DISK 250GB capacity, 232GB formatted capacity (NTFS), SATA interface, 5,400rpm spindle speed
PART CODE WD2500BEVS
DETAILS www.westerndigital.com

PERFORMANCE (see page 66)



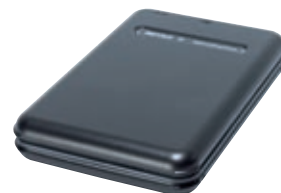
BUFFALO

MiniStation TurboUSB Portable Hard Drive 120GB

★★★★★

£59 inc VAT

From www.broadbandbuyer.co.uk



Buffalo claims its 120GB

MiniStation portable hard disk is up to 64 per cent faster than other USB disks thanks to its TurboUSB mode.

We were sceptical about these claims, but our tests did show some improvement. In standard USB mode, the MiniStation managed 26.3MB/s in our large files test and 10.7MB/s in our small files test. In TurboUSB mode, there was a noticeable 20 per cent improvement when copying large files, but a slight decrease when transferring small files.

The MiniStation's TurboUSB speeds may not match Buffalo's claims, but it is fast for a portable USB disk. It isn't great value at 53p per gigabyte, although the price includes backup software that runs automatically in the background. If copying speeds aren't crucial, then Western Digital's slower but more spacious 160GB Passport costs £1 less.

Alan Lu

SUMMARY

- ✓ Fast USB performance
- ✓ Useful bundled software
- ✗ Inconsistent TurboUSB speeds

EXTERNAL PORTABLE HARD DISK 120GB capacity, 111GB formatted capacity (NTFS), USB Hi-Speed
PART CODE HD-PS120U2
DETAILS www.buffalo-technology.com

PERFORMANCE (see page 66)



Also consider...

COOLER MASTER X Craft 360

★★★★★

£30 inc VAT

From www.yoyotech.co.uk

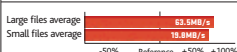


We tested Cooler Master's X Craft 360 disk enclosure with a 320GB Samsung hard disk. Apart from copying large files over eSATA, its performance over both USB and eSATA were in line with our expectations. It's a little noisier than other eSATA enclosures, though. Installing a disk inside the X Craft was effortless since it doesn't require a screwdriver. This alone makes it a desirable and useful product.



3½in HARD DISK ENCLOSURE
Takes one 3½in SATA hard disk, eSATA, USB Hi-Speed
PART CODE RX-360
DETAILS www.coolermaster.com

- ✓ Effortless assembly
 - ✗ Disappointing eSATA performance
- FULL REVIEW Dec 2007



LACIE

d2 eSATA II 3Gbits Hard Drive 500GB

★★★★★

£106 inc VAT

From www.scan.co.uk 0870 755 4747

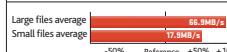
LaCie's d2 external hard disk has a reassuringly heavy metallic case but is unusual since it has no other interface besides eSATA. Its excellent performance almost matched that of an internal SATA II disk, so it's much faster than any USB or FireWire 400 disk and quicker than most FireWire 800 disks.

The d2 is a very fast external hard disk and shows the speed benefits of eSATA.



EXTERNAL HARD DISK 500GB capacity, 465GB formatted capacity (NTFS), eSATA
PART CODE 300976EK
DETAILS www.lacie.com/uk

- ✓ Fast performance
 - ✗ eSATA only
- FULL REVIEW Sep 2007



HYPERTEC Firestorm 160GB

★★

£93 inc VAT
From www.amazon.co.uk

Hypertec's Firestorm 160GB external USB desktop hard disk looks sleek and feels sturdy thanks to its brushed metal case. The Firestorm did very well in our file transfer tests, as the results below show, making it one of the fastest USB hard disks we've seen.

The Firestorm comes with a backup utility, SyncBack, which supports both scheduled and incremental backups. An encryption utility, TrueCrypt, is also included, and can password-protect your files or even the entire disk. Unfortunately both utilities are tricky to use, and have confusing and poorly organised interfaces.

Although the Firestorm is fast enough for everyday use, at 62p per gigabyte it's not good value. Buffalo's 500GB DriveStation Combo (*Labs, Shopper*, September 2007) is only £6 more but has three times the capacity and costs a mere 21p per gigabyte. It means the Firestorm is one to avoid unless you can find it cheaper.

Alan Lu



SUMMARY

- ✓ Fast performance
- ✗ Expensive
- ✗ Poorly designed software

EXTERNAL HARD DISK 160GB capacity, 149GB formatted capacity (NTFS), USB Hi Speed
PART CODE FSV2-H160U2
DETAILS www.hypertec.co.uk

PERFORMANCE (see page 66)



SITECOM CB-040 eSATA Cardbus Card

★

£30 inc VAT
From www.play.com

The eSATA interface can be significantly faster than either USB or FireWire, but notebooks with eSATA ports have only just started to appear and are still uncommon. Sitecom's CB-040 eSATA Cardbus Card adds a pair of eSATA ports to any notebook with an empty CardBus slot.

Although eSATA has a theoretical maximum speed of 300MB/s, the CB-040 has a maximum stated speed of only 150MB/s because of the limitations of the CardBus interface. Since most eSATA hard disks have a maximum speed of around 70MB/s, this isn't a problem.

Unfortunately, as our results show, an eSATA hard disk connected to the CB-040 was not only slower than expected, it was even slower than a USB disk. Although the CB-040 is cheaper than other eSATA CardBus adaptors and has a generous 10-year warranty, we can't recommend it due to its poor performance.

Alan Lu

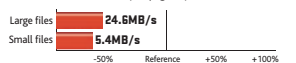


SUMMARY

- ✓ Lengthy warranty
- ✗ Terrible performance
- ✗ Card protrudes from notebook

ESATA CARDBUS CARD Requires CardBus expansion card slot; two eSATA ports
PART CODE CB-040
DETAILS www.sitecom.com

PERFORMANCE (see page 66)



CHOOSING AN... External Hard Disk

Follow the steps to find your ideal specs

SIZE: Desktop
CAPACITY: 500GB
SPINDLE SPEED: 7,200rpm
INTERFACE: USB Hi-Speed
Recommended minimum in grey

1 A basic external hard disk that's good enough for simple backups and designed to sit on your desktop with the specifications shown above will cost around £100.

2 If you need more capacity, it's best to buy the largest hard disk you can afford. If you're using your external hard disk to back up your internal disk, the general rule is to buy an external disk with twice the capacity of your internal disk so you have enough room for other files.

3 If you need to transport lots of files, you will need a portable hard disk. Drives using a 2½in hard disk (as in notebook PCs) are the best value and are available in capacities up to 250GB. They're small enough to slip into a coat pocket or a bag. However, these drives are more expensive per gigabyte than their desktop equivalents.

If size is really important, you need a pocket drive. An external hard disk that uses a 1.8in hard disk (iPod sized) is a good bet. These drives have a maximum capacity of 80GB.

4 Performance can be a big issue with 2½in drives. If you are writing a lot of data to and from a disk, choose one with a high spin speed, as you'll get better throughputs. Most pocket-sized hard disks have a spindle speed of 3,600rpm, while most 2½in hard disks have a spindle speed of 4,200rpm or 5,400rpm. Desktop hard disks have a spindle speed of 7,200rpm.

5 USB Hi-Speed is the most common interface found on external hard disks and is also backwards-compatible with the slower USB 1.1. This is fast enough for most uses, but if you deal with very large files such as DV movies on a regular basis, a FireWire 400 hard disk is going to be quicker.

FireWire 800 is even zippier, but few hard disks and even fewer PCs have FireWire 800 ports. eSATA hard disks can be even faster, but unless you have a very recent PC, you will need to add eSATA ports to your computer using an expansion card.

SEAGATE Barracuda 7200.10 Ultra ATA/100 500-GB Hard Drive

★★★★★

£76 inc VAT
From www.play.com



If you need a high-capacity hard disk for your files but your PC's motherboard lacks a SATA port, Seagate's PATA 500GB Barracuda 7200.10 is ideal. It is excellent value with an incredibly low cost per gigabyte of 16p. It's also very quick.

This is the best PATA drive we have reviewed.



3½in INTERNAL HARD DISK 500GB capacity, 465GB formatted capacity (NTFS), PATA interface
PART CODE ST3500630A
DETAILS www.seagate.com
✓ Low cost per gigabyte; fast for large files ✗ Not quite as quick with small files
FULL REVIEW Jul 2007



SAMSUNG SpinPoint T166-HD501LJ

★★★★★

£79 inc VAT
From www.dabs.com



Samsung's 500GB SATA hard disk is a great choice if you need more space for programs, movies, music, photos and documents. It costs just 17p per gigabyte, but it's the fastest 7,200rpm SATA internal hard disk we've seen so far.

It's an amazingly quick drive and great value, too.



3½in INTERNAL HARD DISK 500GB capacity, 465GB formatted capacity (NTFS), SATA 300 interface, 7,200rpm spindle speed, 16MB cache
PART CODE HD501LJ
SUPPLIER www.dabs.com
DETAILS www.samsung.com
✓ Very fast; low cost per gigabyte FULL REVIEW Jul 2007

